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ON THE DISPERSAL OF THE PLANTS MOST  
INTIMATE TO BUDDHISM

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A FAITH that forbid digging was ill-equipped to advance horticulture: such was primitive Buddhism. But from among plants which were already dear in cultivation it took a few for its own veneration and exercised an influence in their dispersal. It is with these few that this paper deals. As the subject is near the extreme bounds of horticulture it is well at the outset to remind the reader when and where the possible influence on horticulture by Buddhism originated.

The religious philosopher and founder of Buddhism, Siddhattha, son of a Sakya prince and Māyā, one of the prince's two wives, called from his parentage Sakyamuni or the recluse of the Sakyas, of the clan Gotama (Pali) or Gautama (Sanskrit), enlightened teacher and therefore called buddha, was born about the year 567 B. C. Of the several ways of naming him, the best is by his clan as he would have been addressed in life; he is the Buddha Gautama and when so named cannot be confused with the many hypothetical buddhas of the religion. By that name I shall call him. In his late twenties, as the Pali text expresses it, "going from house to houselessness," he crossed the Gangetic plains from his birthplace under the Himalaya of Nepal to Rājagaha, now Rājgir, where low hills rise that have become honeycombed with hermit cells; then he moved a little farther south to the place now known as Bōdh Gayā, and there, after eight years of meditation, an understanding came to him as he sat in the shade of a tree of *Ficus religiosa*. The assumed date is 528 B. C. Thenceforward he was a missionary crossing and recrossing the plains between Rājagaha and the Himalaya until his death in old age about 487 B. C. (cf. for the establishment of these dates, Vincent Smith, *Early Hist. Ind.*, ed. 4, p. 49, 1924, or other editions). The whole of his preaching had been within the limits of the two kingdoms of Kosala and Magadha, say between the longitude of Lucknow and the breaking up of the Ganges into its delta; and all the plants that the faith associated with him should have been familiar within that area at that time.

The language in use was Pali, which was superseding Vedic, to be superseded itself later by Sanskrit. The upper Gangetic plains were completely aryanized; but where Gautama preached the aryanization was incomplete. It is obvious that the pre-aryan population possessed a considerable agriculture, but of its nature we know nothing save that it cannot have been despicable. Indirect evidence suggests that the land enjoyed a prosperity which aided Gautama in withdrawing from Brahmanism a sect of itinerant missionaries entirely dependent on what the land had to spare. These missionaries, when the annual Rainy Season immobilized them, as the oldest rules of the Faith show that it did, gathered in groups to edify and teach each other; and in that way they handed down by word of mouth the whole of their beliefs, the philosophy behind them, and the sermons supporting them. They continued to do so until an off-shoot priesthood in far-away Ceylon, in fear that the human chain would be broken, in troublous times in the 3rd century B. C., began piously to commit to palm-leaf books their vast memorized store. Ecstatic minds had spread unevenly over the kernel an inevitable incrustation; and the incredible in the records casts a shadow of suspicion that the background on which one would like to rely may be the background of the time of writing rather than the background of Gautama's day. The Buddhist monuments do not help, for they belong more or less to the time of the writing and are therefore suspect in the same way. Some little light comes from Brahmanistic literature.

Of all plants the Sacred Lotus, *Nelumbium Nelumbo* (L.) Druce, entered deepest into the religion; and it seems good to consider it first. Lotus it should not be called, but Sacred Lotus. This beautiful water-lily grows naturally in a belt across Asia from the delta of the Volga to Japan and, southwards of the belt, through India, China, the Indo-Chinese countries, and Malaysia to New Guinea and northern Australia. It requires still water, the temperature of which rises in summer to 80-95° F.; winter temperatures which freeze the water above it do not hurt it. In fact it is benefited by contrasted seasons. It is intensely light-hungry and therefore shaded waters do not support it, with the consequence that it is absent from wide stretches of the moister tropics, just as it is absent from wide stretches of mountains where there is no still water for it. Man, when he digs hollows for storing water, creates places which may be favourable, but are not necessarily so if the plant cannot get food enough in them. Its several limitations cause its natural distribution to be patchy, but leave it easy to cultivate.

The Aryans must have known it before they pressed south and east, round the mountains of Afghanistan into the Indus plains. This was before 2000 B. C. Their worship included Sun-worship and they seem to have linked *Nelumbium* with sun-rise, just as the Egyptians linked the blue water-lily of their swamps. But the Aryans' dawn-flower was rose-pink like the dawn-flower of the Greeks. *Nelumbium* possesses several

appropriate characters in addition to the suggestiveness of its colour; it opens, often very abruptly, at dawn, and like the Egyptian Water-lily it possesses that property most naturally important in Sun-worship of rising into the air from a void of waters. Moreover it is very beautiful: cannot dawn be very beautiful in clear more or less desert skies!

The reason for holding that the Aryans gave the Sacred Lotus a place in their Sun-worship is that their descendants, when they had settled in India and their priestly observances came to be recorded in the Rigveda, showed that they kept the connection, making the flower the eye of a personified Sun and garlanding with it certain horsemen, the Asvins, sons of the Sun, betrothed to the personified Dawn. The connection with the birth of the Day passed into making its pretty cup a birthplace in general, — for the beautiful goddess Lakshmi in Brahmanism and for all good occasions in Buddhism; and today fairies are born in the flowers in the folk tales of more than one country in the East.

The Vedic name "pushkara," which is used in the Rigveda, has a connection by its meaning with the edibility of the rhizome. It yielded place to the Pali "padma"; it is questionable why, but it may have been that the utility expressed in the word "pushkara" brought it about, just as in German "See-rose" has displaced the old High German "Kolerwurtze"; — this is utility displaced by the aesthetic. Furthermore it may be added that in Sanskrit the word "padmaka" appeared by the side of "padma" as a name for the rhizome, having the meaning of "belonging to padma," i. e. the rhizome was put in second place.

At the time of Gautama it cannot have been otherwise than that his compatriots, ready enough to eat the rhizomes and seeds and to use the leaves as platters, loved the plant very particularly for its beautiful flowers. It was honorific to present all pretty flowers in homage but especially its flowers, to seat a ruler on a seat carved as the flower (a "padmasana"), and to place august feet on a stool similarly carved. There is a parable in the Jatakas or Birth stories of Buddha (Jātaka no. 261) indicating that it was cultivated to meet a trade in flowers so established as to feed a flower-bazaar; and as this parable introduces the name of Ananda, Gautama's cousin and most faithful disciple, the existence of the trade is claimed for the time of Gautama. It is evident that they who wrote down the story, and dated it thus 300 years or so before the time of their writing, thought there was no anachronism in attributing the trade in the flowers to that time.

The use the followers of Gautama made of the flowers as an honorific was at first that which others who were not his followers made of it. It was a social custom.

In the year 1898, a planter and skilful surveyor, William Claxton Peppé, carefully opened a reliquary mound at the village of Piprahwā in the Basti District of northern India, close under the Himalaya of Nepal. He unearthed among other deposits a beautifully shaped steatite vase containing undoubted relics of Gautama, and inscribed as the pious foundation

of the Sakya brethren with their sisters, children, and wives. The inscription is held to be of the time of the great buddhist emperor, Asoka, suzerain of three-quarters of India from 272 to about 232 B. C.; and therefore there had been a reburial, so that the date of flowers in gold and silver deposited with the relics is to be taken rather as 247 B. C., which is when Asoka made his recorded pilgrimage to the holy places of his faith, than as near 487 B. C., when Gautama died. That this is right two further considerations suggest, namely (a) with the flowers are trisulas and other emblems likely to have been accretionary in the religion after Gautama's death, and (b) similar flowers have been found in monuments of about Asoka's time. Thus the evidence the deposited flowers afford is to be dated  $2\frac{1}{2}$  centuries after Gautama's death. The flowers and other associated objects were drawn, as found, by Mrs. Peppé, and her drawings were reproduced on a plate inserted into the *Journal of the Royal Asiatic Society* (1898, opposite p. 579). Peppé, on p. 576, describes them as "ornaments in gold, gold beads, impression of a woman's figure . . . svastika . . . and quantities of stars or flowers both in silver and gold with six or eight petals each." With the identifications of these two kinds of flowers I am immediately concerned, and in the first place with the six-petalled. They may have the petals rounded or pointed, and if rounded they are very well described as like Forget-me-not flowers with one petal too many. Of Indian flowers they exactly resemble those of the Teak tree. But surely Gautama never saw a Teak tree, as he spent his life to the northward of the area in India which the Teak occupies; and his followers had no reason to connect that tree with him. These flowers in precious metals I determine as conventional representations of Sacred Lotus flowers. As to the improbability of their origin being the Teak tree, Watters' association of this tree (which was in Sanskrit called "Sāka") with the Sakya tribe whence Gautama came (*Jour. Roy. As. Soc.*, 1898, p. 570) sent me hunting for myths that might have led to a connection, but altogether without success.

I have mentioned that the flowers in the Piprāhwā find were illustrated from drawings; a similar find of flowers in gold and silver was made at a village called Bhattiprolu in the Kistna District of the Madras Presidency and was illustrated photographically by Alexander Rea in volume 15 of the *Reports of the Archaeological Survey of India* (1894, pl. 1). Three vases were found and their contents are shown on this plate; in the first vase were relatively large eight-petalled flowers, along with smaller six-petalled flowers and a few five-petalled; in the second vase were 164 flowers, two-thirds of them six-petalled, most of the rest eight-petalled, and just a few five-petalled; in the third vase with one exception all the flowers were six-petalled. The reader will note that the eight-petalled flowers are as a rule larger than the others; they must have cost more in the market.

Fully 800 miles separate Bhattiprolu from Piprāhwā.

The image of the six-petalled flower is found cut into the stone in the

buddhist monuments of Bōdh Gayā, Bharhut, and Sānchi, which stand wide apart across the centre of India. The representations are so alike that if one is accepted as the flower of the Sacred Lotus, all must be; therefore the distribution of the conventional emblem was wide, fully as wide in any direction as the distance of Bhattiprolu from Piprāhwā suggests. At the Bharhut Stupa the flowers are scattered over altars and are mixed with representations of Sacred Lotus flowers in side view which are not conventional at all nor deceptive (for illustrations of them see Sir Alexander Cunningham's "Stupa of Bharhut," 1879, *plates 13, 14, 15, 17, and 29*). At Bōdh Gayā the flower is represented on a panel as covering a tree; the tree is fenced round, and the fence serves as an identification mark showing that the tree was the sacred bodhi tree under which Gautama attained enlightenment, his *Ficus religiosa*; therefore the flowers are not its own, but honorific Sacred Lotus flowers put over it as garlandings (see Rajendralala Mitra's "Buddha Gaya," 1878, *plate 38*). The same flower fills niches in the design of one of the gates at Sānchi (see Maisey's "Sanchi and its Remains," 1892, *plate xii* and cf. *plate xxvi*; also Foucher and Marshall, "The Monuments of Sanchi," *plate 51b*).

I have given references enough to show how firmly this conventional representation of the flower must have been established, and I feel assured that the reader will consent that the Bharhut and Bōdh Gayā carvings determine what that flower is.

The eight-petalled flower admits of no mistaking. The natural flower is enclosed in four sepals, and petals follow to an uncertain number; the representation of a flower, should it realistically start with four to indicate the sepals, naturally proceeds with another four and thus eight is reached. The followers of Gautama in time connected the number eight in this flower with "the Noble Eightfold Path" from conversion to enlightenment. The simile did not lead to the device, but the device to the simile.

The flower in gold with five petals, which is present in small numbers in the finds, must also have represented the Sacred Lotus, partly on the argument that the departure from realism by which the six-petalled flower was reached was easy of extension to five, and particularly that five-petalled flowers terminate the arms of composite ornaments made up of six-petalled flowers, being set at the ends as smaller.

From the eight-petalled representation of the flower, Buddhist carving, statuary, and pictures increased the number of petals according to available space, usually by four at a time.

The early Buddhists claimed that Gautama on his death-bed had enjoined four pilgrimages. Whether he did or did not is immaterial, seeing that the pilgrimages came into being. The first was to Kopilavastu, near which he was born, and its symbol was the Sacred Lotus flower; the second to Bōdh Gayā, where he obtained enlightenment, and its symbol was the sanctified *Ficus religiosa* under which it occurred; the third to Benares, where he preached his first sermon, and its symbol was the wheel; and the

last to Kusinagara, where he died, and its symbol was a funeral mound (see Foucher in Mem. no. 46, Archaeolog. Survey India, 1934). Though the Sacred Lotus belonged in the greatest measure to Kopilavastu, it is clear that it conveyed to the Buddhists ideas so essential as to be an emblem everywhere; and it is evident that pilgrims offered the flowers not only at Kopilavastu but at the shrines generally, not merely the natural flowers which were more often out of season than in season, but gold and silver representations of them as an alternative or an accompaniment.

Why enshrine the gift in this form? Firstly, it was not coin which the brethren were forbidden to accept, although they did when lax. Secondly, the choice of the flower in gold as a means of honouring was established before Gautama's day. For instance, in the Vedic Satapatha Brāhmana it is directed that a king at his coronation should be garlanded with "pushkara"; and in the later, but still Vedic, Sayana and Katyayana it is suggested that the flowers be of gold and the ceremonies protracted over a whole year, i. e. over months when the natural flower could by no means be procured. Naturally, then, the buddhist priesthood valued the combination of honour and alms that the flowers in gold or silver brought to the altars. And this having been stated, the reader will understand why I have been anxious to make the point that five-petalled, six-petalled, and eight-petalled emblems do not represent rival flowers, but the one only, offered in different sizes. The pilgrim who placed his offering on the altar would of necessity take the smaller flower should his purse be too small to admit of the larger, and the artisans who made the flowers, cramped by the need of getting the price down to meet exhausted pockets, seem to have decided that a reduction to six petals brought the cost down without destroying the similitude of the emblem. I see no reason for seeking another explanation and am fully satisfied that the six-petalled and the eight-petalled are not rivals for honour.

The Sacred Tooth at the Temple in Kandy is placed, when on exhibit, in a golden Sacred Lotus flower.

There are so many figures in buddhist sculpture of flowers in vases that we know they were thus placed on altars. Otherwise in ceremonials they were strewn about.

The buddhist monasteries from very early times made fish-ponds in their grounds, not that they might eat the fish, but that the keeping of the fish might be an act of charity. *Nelumbium* likes plenty of manure; the fish provided it; the plants thrive and the altars were well supplied with their flowers. It would be an object to raise freely flowering plants, and, as scent was desired, to choose well scented races; but outside the monasteries greater selection was probable from the luxury of sprinkling the flowers over beds, a luxury expressly forbidden to the priesthood. At times white-flowered races met with favour and were assigned as recognition marks to certain saints. It happens that today the strongest scented flowers in European markets are those of a white-flowered race.

When Buddhism travelled beyond the boundaries of India, it carried the name "padma" as an ecclesiastic name to countries where the plant had its established secular name; and so it is that "padma" or "padema" is known in Ceylon beside "nelun," "nelum," and "nelumbu"; in Burma beside "kya"; in Siam beside "bua"; and in Java beside "tarate." Sometimes the secular name, because it covers species of *Nymphaea* as well as *Nelumbium*, needs for precision a distinguishing adjective.

In China the plant has more than one name, which in an interesting way indicate different parts of it. The chief name is "lien"; it is not ecclesiastic, though "pai lien" or "precious lien" is the Sacred Lotus flower held in the hand of the image of Kuan Yin, the divine source of infinite mercy.

Attention may be drawn in passing to what is apparently an ecclesiastic name used in the northern Shan States, where "poh bo" (that is, "bo" flower, apparently for "poh bo-da" or Buddha's flower) is met with in Palaung (see Mrs. Milne's Palaung-English Dictionary, p. 31).

*Nelumbium* blossoms in northern India in the months of August, September, and October, after which the buddhist altars would be bare of it. Certain Sanskrit names point to substitutes, chief of all to *Hibiscus mutabilis* Linn., which was called "sthala padma" or "land padma." This name persists in use in Bengal in the form "thalpadma." At the same time this pretty flower was "padmavati" and "padma carini" meaning "like padma." It may be assumed that, as a shrub which could be grown in monastery parks, it had its place, and that its pink flowers served as a substitute.

In Monier-Williams' Sanskrit Dictionary two other plants are said to bear the name "padma." He quotes both from Indian lexicons and therefore the dates of their use are not indicated. The first is the dye-plant *Carthamus tinctorius* Linn.; but it would not be a substitute. Its association arose in the colour which it dyes. The other is *Clerodendron siphonanthus* R. Br., more properly named *C. indicum* Kuntze; and here I suspect an error in identification, for *C. siphonanthus* has not the resemblance to the Sacred Lotus which *C. fragrans* Vent. and in a less measure *C. infortunatum* Gaertn. possess. It would seem reasonable to transfer employment at the altar to these two, but not to the first.

The Chinese associate *Hibiscus mutabilis* with Confucius, calling it "fu jong," a name which extends into Cochin-China and Siam as "fu yong." On the other hand the Chinese give the name "fo sang" or Buddha's mulberry to *Hibiscus rosa-sinensis* Linn. The ideograms for "fu" and "fo" are very unlike; but because of the similarity in modern pronunciation it seems right to ask that some sinologue look into the application of the two names.

India, today, regards the "tulsi," *Ocimum sanctum* Linn., with more affectionate veneration than any other plant, giving the second place to *Ficus religiosa* Linn. Buddhists put the latter into the forefront of their faith because Gautama attained enlightenment when, as already stated,

meditating under a tree of this species — his bodhi tree: they gave no place to the *Ocimum*. There is a reason for the Indian villager's preference which is not religious; he can and does grow the *Ocimum* at his house door, but as a rule it is out of the question for him to seek space for a tree so umbrageous as the *Ficus*; it is better to let the village have a communal tree, and so it is arranged. There is also a reason for the Buddhist's disregard of *Ocimum*: namely that the faith forbid digging, and *Ocimum*, by demanding a clean-weeded square foot of soil, asks for it. But to take a small branch of the *Ficus* and to thrust it into the soil as a cutting broke no regulation; and it grows.

The reader will observe in reading this paper that with the exception of *Nelumbium*, all the plants named as intimates are woody: they were all suitable for positions in parks, growing in them without particular attention. Moreover, he will note that *Nelumbium* was raised assuredly without any turning over of soil for it. *Ficus religiosa* readily obtained a place in such parks, and, if by a cutting taken from Gautama's own bodhi tree, so much the more valuable the scion raised. From the founder's tree, according to Jātaka no. 479, a cutting was taken with Gautama's consent to Jetavana in Savatti and planted at one of the town's gates; and it is recorded also that in the 3rd century B. C. the park of Mahamegha, near Anuradhapura in Ceylon, acquired a cutting, and that other cuttings followed until Ceylon had eight. The name "bodhi druma" or tree of enlightenment could scarcely become a distributed vernacular name for this fig until such events began to take place, for it indicated at first an individual tree.

*Ficus religiosa* is native in the foot-hills of the Himalaya from the Punjab eastward, and of moist country southward as far as the borders of the Madras Presidency, and it is native through Burma almost to Rangoon. Nature spreads it by very minute seeds; and the minute seedling must have plenty of light and moisture. These two needs, acting together, produce restricted limits; but Man can take cuttings, and as the tree is very tolerant of climate when once established, can spread it widely. It is grown from cuttings even in a country so dry as Beluchistan (see the writer's "Working List of the Flowering Plants of Beluchistan," p. 70, 1909). If it be right, and it probably is right, that the Aryans were struggling for lands in the Indus plains when the great town of Mohenjodaro existed, say in about 2000 B. C., they would have met with the tree on entering India, for Sir John Marshall identifies it with a fair measure of certainty on a seal found there ("Mohenjodaro and the Indus Civilization," 2, p. 390, 1931). The tree tolerates the climatic conditions of today in the Indus delta (cf. Blatter and Sabnis, "Flora Indus Delta," p. 29, 1929), and there is nothing unreasonable in thinking it could have been carried that far by cuttings. Male plants of *Salix tetrasperma* Roxb. show by their dispersal in southeastern Asia how readily a plant may travel by cuttings.



The *Ficus* is widely seen on roadsides, giving grateful shade; and the Aryans would appreciate this usefulness as well as its yield of fodder. There are, of course, no written records of it at very early dates; but its name "pippala" is met with in the late Vedic Brhadāranyaka Upanishad in a way which MacDonnell and Keith (Vedic Index, 1, p. 531, 1912) regard as a reference to the tree.

The tree marks mid-winter by shedding its leaves and standing bare for a strikingly brief period of two or three days: this and the restlessness of its leaves in any light breeze make it mystic enough to seem a possessor of secrets. Consequently it was prayed to in the Vedic Atharvaveda, and up to our times the Indian villager, especially he of the south, places in its shade the prayer for offspring that he makes when he dedicates a snake stone.

The selection of a seat under it for Gautama's meditation would not be altogether fortuitous.

As the time of its leaf-fall coincides with the anniversary of Gautama's death, the Buddhists decided that it has memorized the event.

*Ficus religiosa*, of extended dispersal already when Gautama was born, invited buddhist aid for faster travel; and good proof that such aid was given is obtained by the distribution of names derived from the Sanskrit "bodhi druma" or tree of enlightenment. There is "bo gaha" or bo tree in Ceylon; "nyaung bo de" in Burma where "nyaung" is applied to a group of large figs; "cay bodi," "cay budde," and "cay de" in Annam; "bu" or "but" in the Cham language; "po ton" or po tree in Siamese; "d'om p'io" in the Khmer language; "kayu bodi" or bodhi tree in various parts of Malaysia; "p'u t'i shu" or bodhi tree in Chinese; and "bodai ju" in Japanese. But the names are sometimes applied to *Ficus Rumphii* Blume, and sometimes to species of *Tilia*, notably to *T. Miqueliana* Maxim. The two misapplications are of very different degree, for *Ficus Rumphii* is so similar to *F. religiosa* that its appearance justifies the transfer of the name, and in Annam and Malaysia the demand for *F. religiosa* about shrines may be met by *F. Rumphii* in a way which arrests the dispersal of *F. religiosa*. But no similarity justifies the transfer of the name to *Tilia*, which northern Chinese and Japanese, being unable to get the *Ficus* to grow in their climate, made in a kind of desperation. Its interest is chiefly in demonstrating the intensity of a demand that could produce such an unreasoned substitution. Modern Japanese botanical works record the name "bodai ju" as indicating *Ficus religiosa* as well as four or five different species of *Tilia*, most of them favourite trees in their country, with highly scented flowers, and frequently planted.

It was stated at the outset of this paper that Gautama's mother was named Māyā. She, expectant of the birth of her child and wishing it should take place at Devadaha, was travelling thither by palanquin from Kopilavastu and had reached a grove of trees half way when overtaken by labour. Some call the place the Lumbini Garden; but the word garden

implies cultivation, whereas the biographic commentary Nidanakatha calls it a wood of variegated climbers, a mass of flowers and fruits, and in it a mighty "sāla" tree. In this grove Gautama was born, his mother clutching a branch of the mighty tree.

"Sāla" is the Pali and Sanskrit name of *Shorea robusta* Gaertn., and shortened to "sāl" persists in Hindi and Bengali. Of the continuity of the application of the name there is not the slightest doubt, particularly as "sāla" was the principal building timber of northeastern India in those days, when all buildings were of wood, and it was in such great use that "sāla" also meant a house. There is an interesting story in the Jatakas (no. 465) of the choice of a great tree for the making of a palace.

As Māyā's journey would bring her among "sāla" trees the story has no geographic incompatibility; but as trees when well grown carry their branches far out of reach, the story had a difficulty to circumvent which it did by making the branch bend miraculously to Māyā's hand.

Gautama's association with the "sāla" did not, however, end with this, for on his last mission he died, lying on his cloak, which Ananda folded and placed for him on the ground between two "sāla" trees; and this solemn event gave a sanctity to the species greater than that of his birth, one which made devout Buddhists anxious to grow the tree about their establishments. But it must have proved intractable. The tree drops its seeds in winged fruits at ripeness and they germinate at once; if they be foiled they die. Foresters in India complain that a layer of dead leaves on the soil is enough to frustrate establishment, as the seed dies while it is delayed in getting anchorage. Its quick death made transport by seed of no avail.

It is remotely possible that Kashmir monasteries, in their inability to raise *Shorea*, substituted *Aesculus indica* Hiern, an Indian Horse Chestnut; but that is not demonstrated. The Chinese, whose pilgrims were certainly familiar with Kashmir, for some unexplained reason took their *Aesculus chinensis* Bunge, which is very like *A. indica*, for "sāla," calling it "so lo" and planting it about their monasteries. There is otherwise no reason for thinking that the Kashmir Buddhists may have taken their tree for the "sāla"; though it would have been, as today, a favourite for planting. No one has as yet found a vernacular name applied to it which could be derived from "sāla." Alternatively the acceptance of *Aesculus chinensis* may have had no more behind it than the acceptance of the *Tiliae* already mentioned.

The flower of *Shorea robusta*, cut in gold leaf, was present in the Piprāhwā find.

When in 249 B. C. the great buddhist emperor, Asoka, went on pilgrimage to the holy places of his religion and came near Kopilavastu, his spiritual preceptor, Upagupta, arrested him with the words, "Here, Great King, was the venerable one born." Asoka marked the spot, but the tree grasped by Māyā, according to the records of Asoka's visit, instead of being

*Shorea robusta*, was that known today through northern India and yet more widely by the very name of the emperor himself — the “asoka,” *Saraca indica* Linn., its sanskrit name meaning without sorrow. It is a small tree, branching low, so that Māyā would have had no difficulty in grasping it. When it flowers it is of great beauty, the flowers being from a pale citron to a ruddy orange, and deliciously scented. The poetry of introducing into the story a plant with a name of such meaning and the flattery of doing so in the reign of a ruler of the same name are obvious. Worthiness was preserved: if Māyā’s contact was not to be with the greatest tree, it might well be with the most beautiful available flower. There was no geographic incompatibility; for *Saraca indica* is proved to grow by streams in the foothills of that part of the Himalaya. Thence it spreads eastward toward southwestern China and southward in the moister mountains of Peninsular India to Ceylon. It is also in Tenasserim. It is a great garden favourite in parts of India near its natural habitats.

The word “asoka” may have recalled to the reader’s mind an English poetic name of the same meaning — “hearts-ease.” Names like this are of small valency: they may slide off; and “hearts-ease” did so, for in the sixteenth century it was used for the Wallflower, *Cheiranthus Cheiri* Linn., as well as for the Pansy, *Viola tricolor* Linn., and then slid away from the Wallflower. Similarly “asoka” was not so firmly attached as it is now to the one plant, but denoted also scarlet-flowered species of the genus *Ixora* and apparently other pleasing plants. I have mentioned resort at the altar to *Hibiscus mutabilis* when *Nelumbium* was out of flower; so resort would seem to have been made to *Ixora coccinea* Linn. when *Saraca indica*, after a rather short flowering in the Hot Weather, went into seed; the *Ixora*, whose flowering is very extended, then comes to its best and continues so through the Rainy Season. Prain (Bengal plants, p. 571, 1903) has suggested Chittagong to be the home of this plant. It would seem to have been joined early in Indian gardens by *Ixora stricta* Roxb., from a little further to the east.

To the south of the Vindhya hills “asok” is applied today to the umbrageous tree *Polyalthia longifolia* Benth. & Hook. f., which is unlike *Saraca* and *Ixora* in every respect save that it is cultivated; and Tamils call it “assothei” which is the same name. It is a native of Ceylon and has been brought northward as far as the Gangetic plains by Man’s plantings.

There is a curious use of the name “asoka” by the great Chinese pilgrim Hsuan-tsang. He narrates that he was set on by robbers a short distance down stream from Ayudhia in a wood of “asoka” trees (Julien, Hist. Vie de Hiouen-tsang, p. 116, 1853; Watters, On Yuan Chwang, 1, p. 360, 1904; and Beal, Life of Hiuen-tsiang, p. 86, 1911: Julien transliterates the word ‘o-chou-kia). I refer to this because it is incredible that *Saraca indica* could have existed as a wood on the sides of a navigable river out in the plains; and Hsuan-tsang could not have meant *Saraca*; nor could

he have meant *Polyalthia longifolia*. It is impossible to state what he meant; but the use of the word suggests that to him at least "asoka" was not necessarily *Saraca*.

If "asoka" has been thus loosely applied, it is necessary to take up with the scholars their interpretation of "asoka" in such writings as the Vedic Brihat Samhitā. But Bana, who wrote rather more than a century after Hsuan-tsang had left India, very definitely knew *Saraca indica* as "asoka" and *Ixora coccinea* as "bandhuka."

That the name "asoka" originated in the plains of northern India is certain; it travelled southwards, keeping its form; but across the Bay of Bengal it lost its initial letter, appearing in the Siamese language as "sok" and in the Sundanese as "soka," which are in Siam and Java, respectively, applied to *Ixora*. It is quaint that those who use the name deprived of its first letter go about unknowingly calling it sorrow. In Tenasserim the beautiful *Amherstia nobilis* Wall. has the name "so-ka," apparently of the same origin. Kurz, who first recorded it, does not extend this spelling to *Saraca*; but he makes *Amherstia* and *Saraca* share the name as "thauh-ka." I have improved his transliteration.

The Chinese have translated "asoka" into "wu yu shu" or no sorrow tree.

Whether a four-petalled flower cut into the stone carving at Bharhut be *Saraca* or *Ixora* is impossible to state, but it is probably either the one or the other (for illustration see Rajendralala Mitra's Buddha Gaya, *plate* 32); but the four-petalled flower in the hand of the figure of Gautama and that in the hand of the figure of Padmapani are certainly intended to be *Nelumbium*.

*Shorca robusta* and *Saraca indica* were not, however, the only trees said to have been grasped by Māyā; in the Lalitavistara, a Buddha epic of the commencement of our era, she is made to grasp a branch of *Ficus religiosa*. This substitution is late and had its obvious origin in the Indian belief that the foot of this tree is definitely connected with offspring. Then again there is a version of her conception which makes her to be taking a siesta under one of these trees when she dreams the dream which interpreters of dreams explained as marking the moment when she conceived. In other versions her siesta was in the palace.

Watters (On Yuan Chwang, 2, p. 16, 1905) calls attention to a Chinese translation of the Lalitavistara in which Māyā is made to grasp a branch of the "lin-pi" tree. This is not a claim for yet another tree; but "lin-pi" = "lumbi," as he explains, must mean no more than the tree of the Lumbini Grove.

The identical tree which Māyā grasped, the tree which Asoka saw, is said to have been seen in a dying state in A. D. 400 by the pilgrim Fa-hien, and in a dead state over 200 years later by Hsuan-tsang. Now a tree of *Shorca*, if a giant in 567 B. C., had surely died long before A. D. 400, and a tree of *Saraca* had certainly died. Substitutions may have occurred,

just as in the case of the *Ficus* at Bōdh Gayā, which substitutions the reader will find recorded by Rajendralala Mitra in his book "Buddha Gaya."

Imaginative disciples during the most accretive years of Buddhism assigned various pleasant trees to hypothetical buddhas, that they might be described as obtaining enlightenment under them or as doing various acts under them. Such trees were *Melia indica* Brandis, *Michelia Champaca* Linn., *Mesua ferrea* Linn., *Terminalia tomentosa* W. & A., *Albizzia Lebbek* Benth., etc. To collect together their names would seem to be a way of knowing what was to be found in the monastery parks; but there were princely courts that laid out parks of the same nature, and the priest did not promote the dispersal of these trees more than the prince, sometimes perhaps less than the prince.

My study of the few that were really intimates began with the collecting of sanskritic names current in Indo-Chinese and Malaysian languages in a wish to know how certain plants of India had come to travel. *Nelumbium* had not needed transport, but obtained from Buddhists some increase in abundance; *Ficus religiosa* had its range extended, but was not always preferred to *Ficus Rumphii*; *Shorea robusta* resisted being taken out of its natural area; *Saraca indica* and *Ixora coccinea* were taken across the Bay of Bengal, not necessarily by Buddhists but by those who laid out parks, whether Buddhists or not. All the trees named, unless the *Terminalia* be excluded, had a definite horticultural value and by that value they are still progressing eastward. Dr. E. D. Merrill indicates, in his "Enumeration of Philippine Flowering Plants," the relatively recent arrival of most of them at the farther end of Malaysia.

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